

What is claimed is:

1. A method of manufacturing a light-emitting diode device, comprising the following steps of:

- 5 forming a lead frame including
- a first pattern part for use in mounting a light-emitting diode chip thereon,
- a second pattern part electrically connected to the first pattern part to be used as an electrode,
- 10 a third pattern part spaced from the first pattern part to be electrically insulated from the first pattern part and used as another electrode, and
- a fourth pattern part and a fifth pattern part integrated with both sides of the first pattern part;
- 15 plating the first, second and third pattern parts of the lead frame with a metal having high adhesion and conductivity, to prepare a plated first pattern part, a plated second pattern part, and a plated third pattern part;
- 20 plating the fourth pattern part and the fifth pattern part with another metal having high reflectivity, to prepare plated fourth and fifth pattern parts;
- mounting the light-emitting diode chip on the plated first pattern part of the lead frame;
- 25 wire-bonding the light-emitting diode chip mounted on

the lead frame to portions of the second and third pattern parts, to form wire-bonded portions; molding the light-emitting diode chip and the wire-bonded portions so as to protect the light-emitting diode chip and the wire-bonded portions; 5 upwardly folding the plated fourth and fifth pattern parts, neither being molded, relative to the first pattern part to allow plated surfaces of the fourth and fifth pattern parts to face each other, thus forming reflective surfaces; and 10 forming non-molded portions of the second and third pattern parts to make leads.

2. The method as defined in claim 1, wherein the fourth 15 pattern part and the fifth pattern part of the lead frame are plated with Ag, Ni, Pd or Cr.

3. The method as defined in claim 1, wherein the first, second and third pattern parts of the lead frame are plated 20 with Ag, Au or Pd.

4. The method as defined in claim 1, wherein the upwardly folding step further comprises the step of controlling reflection angles of light by adjusting angles 25 between the first pattern part and each of the fourth and

fifth pattern parts.

5. The method as defined in claim 1, wherein a molding material used at the molding step is transparent epoxy.

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6. A method of manufacturing a light-emitting diode device, comprising the following steps of:

forming a lead frame including

10 a first pattern part for use in mounting a light-emitting diode chip thereon,

a second pattern part electrically connected to the first pattern part to be used as an electrode,

15 a third pattern part spaced from the first pattern part to be electrically insulated from the first pattern part and used as another electrode, and

a fourth pattern part and a fifth pattern part integrated with both sides of the first pattern part;

20 plating the first, second and third pattern parts of the lead frame with a metal having high adhesion and conductivity, to prepare a plated first pattern part, a plated second pattern part, and a plated third pattern part;

25 plating the fourth pattern part and the fifth pattern part of the lead frame with another metal having high reflectivity, to prepare a plated fourth pattern part

and a plated fifth pattern part;
upwardly folding the plated fourth pattern part and the
plated fifth pattern part of the lead frame relative
to the first pattern part to allow plated surfaces of
5 the fourth and fifth pattern parts to face each other,
thus forming reflective surfaces;
pre-molding the first pattern part, the upwardly folded
fourth and fifth pattern parts, and portions of the
second and third pattern parts to be surrounded while
10 the other portions of the second and third pattern
parts are externally exposed, thus forming a package;
mounting the light-emitting diode chip on the plated
first pattern part in the package so that a light-
emitting surface of the light-emitting diode chip
15 faces upward;
wire-bonding the light-emitting diode chip to each of
the second pattern part and the third pattern part in
the package, to form wire-bonded portions;
molding the inside of the package to protect the light-
20 emitting diode chip and the wire-bonded portions; and
forming the other portions of the second and third
pattern parts exposed outside the package to make
leads.

25 7. The method as defined in claim 6, wherein the fourth

pattern part and the fifth pattern part of the lead frame are plated with Ag, Ni, Pd or Cr.

8. The method as defined in claim 6, wherein the first,
5 second and third pattern parts of the lead frame are plated with Ag, Au or Pd.

9. The method as defined in claim 6, wherein the upwardly folding step further comprises the step of
10 controlling reflection angles of light by adjusting angles between the first pattern part and each of the fourth and fifth pattern parts of the lead frame.

10. The method as defined in claim 6, wherein a molding
15 material used at the molding step is transparent epoxy.

11. The method as defined in claim 6, wherein the package formed at the pre-molding step is made of non-transmittable plastic materials.

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